STIC Search Report
EIC 3700

STIC Database Tracking Number: 94907

TO: Kurt Fernstrom
Location: CP2-10B14
Art Unit: 3712
Tuesday, May 27, 2003

Case Serial Number: 09/849582

From: Julie Walko
Location: EIC 3700
CP2-2C08
Phone: 305-8587

Julie.walko@uspto.gov

Search Notes

Kurt:

Attached are the results to your request regarding a method of determining zodiac signs.

I think the best hits are in the full-text non-patent literature. Although I marked some hits, I recommend you review the entire packet. I was unable to locate any applications by this inventor in the foreign patent files.

If you have any questions or would like this search reworked in any way, please do not hesitate to contact me at the number or address listed above.

Access DB# 94907

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Kurt Fernstrom Examiner #: 75063 Date: 5/23/03
Art Unit: 3712 Phone Number 305-0303 Serial Number: 09/849,582
Mail Box and Bldg/Room Location: CP2 10B14 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method of Determining Zodiac Signs

Inventors (please provide full names): David Andrew DeMura

Earliest Priority Filing Date: 6/26/98

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Claim 48 only - focus on ecliptic coordinates, plotting as a function of date and time as well as location, and 2-D and 3-D charts.

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: Jim Lewalke	NA Sequence (#)		STN	
Searcher Phone #: 305-8587	AA Sequence (#)		Dialog	✓
Searcher Location: CP2-2C08	Structure (#)		Questel/Orbit	
Date Searcher Picked Up: 5/27/03	Bibliographic	✓	Dr.Link	
Date Completed: 6/27/03	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 7 m	Fulltext	✓	Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	✓
Online Time: 89 m	Other		Other (specify)	

PTO-1590 (8-01)

10:50 - 11am 1:30

reviewed

G04B
G09B
434/276

Search using: O FAST ◉ Google O Inktomi O Teoma

ecliptic coordinates zodiac SEARCH Homepage | Advanced Search

CUSTOM WEB FILTERS HotBot Skins | Pre

Language: **English** -- Date: **Before June 1998** -- Block Offensive Content: **Never** [Edit this Search]

WEB RESULTS by Google (Showing Results 1 - 10 of 31)

1. untitled
... Sky'. The programs in the directory 'Skys' are 'Zodiac' and 'Map'. They plot in **Ecliptic** and Equatorial **coordinates** respectively. ...
chemlab.pc.maricopa.edu/hp/skydoc.txt - May 25, 2003 - 22 KB

2. Houses in Polar Zone
... to **Ecliptic** axis, that mean, local horizon match **Ecliptic**. ... also direction of houses on **Zodia** increasing of house numbers zodiacal **coordinates** of house ...
astrolog.offline.ee/astrolog/changed/polar.html - 13 KB

3. untitled
... 1950.0 = mean obliquity of the **ecliptic** 23d 26'45". Reducing these to their ecliptical **coordi** the Mean ... Sidereal Measurement of the **Zodiac**. ...
www.magee.demon.co.uk/the12.txt - 16 KB

4. untitled
... using the equinoctial measure 'as' the tropical **zodiac**. ... 1950.0 = mean obliquity of the **ecli** ... Reducing these to their ecliptical **coordinates** gives the ...
www.magee.demon.co.uk/4spheres.txt - 35 KB

5. SKYVIEW LAB
... What **coordinates** did you have to select--ie, where on Earth ... these 12 special constellation **ecliptic** is not ... Does this correspond to your **zodiac** sun sign ...
www.astro.ucla.edu/~tanner/malskyview.html - 15 KB

6. celestial_concerto.html
... and its autumnal counterpart move relative to the **zodiac**. ... Changing stellar **coordinates** a result of ... direction is westward along the **ecliptic** and the ...
www.astro.ucla.edu/~kaisler/words/astrotext/articles/event_horizon/concerto - 7 KB

7. The Saphea Arzachelis
... Thus, the projection can represent the celestial **coordinates** of a point in space in three diffe coordinate ... The **ecliptic** is divided by the **zodiac** on most ...
www.astrolabes.org/SAPHEA.HTM - 14 KB

8. untitled
... and **ecliptic** 6. These are the "equatorial **coordinates**" of a ... zenith and nadir e. equator an The ... zenith b. equator c. meridian d. **zodiac** e. equinox ...
fermi.bgsu.edu/~stoner/A201/a201e1.txt - 10 KB

9. 29:50 B & E - Ancient Astronomy
... move eastward near the **ecliptic**, sometimes stopping to ... BC); 360 degrees, 60 ", **zodiac**, observed ... through differences in stellar **coordinates**: period of ...
www-astro.physics.uiowa.edu/~ihc/lectures/ihc03_2.ppt - 0 B

10. THE SKY: OUTLINE
... globe] Twelve Constellations in the **Zodiac**. ... and Saturn - anywhere along **ecliptic** Brightne Stars and Constellations **Coordinates** [Activity: identifying ...
www.pa.msu.edu/courses/1997spring/ISP205/sec-3/sky.outline.html - 29 KB

« **Previous** | **Next** »

Date: Wed, 29 Jul 92 05:03:03
From: Space Digest maintainer <digests@isu.isunet.edu>
Reply-To: Space-request@isu.isunet.edu
Subject: Space Digest V15 #048
To: Space Digest Readers
Precedence: bulk

Space Digest Wed, 29 Jul 92 Volume 15 : Issue 048

Today's Topics:

Welcome to the Space Digest!! Please send your messages to "space@isu.isunet.edu", and (un)subscription requests of the form "Subscribe Space <your name>" to one of these addresses: listserv@uga (BITNET), rice::boyle (SPAN/NSInet), utadnx::utspan::rice::boyle (THENET), or space-REQUEST@isu.isunet.edu (Internet).

Date: Tue, 28 Jul 1992 07:00:09 +0000
From: "Paul J. Gravestock" <paulg@griffin.demon.co.uk>
Subject: Astronomy Lab for MS Windows 3.X - BETA TESTERS NEEDE
Newsgroups: sci.space

In article <1992Jul26.085936.2785@wybbs.mi.org> @wybbs.mi.org writes:

>
>
>I also tried to write to become a beta tester,
>and had mail bounce...
>
This seems to be happening consistantly, I had a similar problem, it looks like there is a broken mailer somewhere as the author seems to think he exists !

B-)

Paul J. Gravestock | email: paulg@griffin.demon.co.uk
Hertfordshire | pgravestock@cix.compulink.co.uk
England |

Date: Tue, 28 Jul 1992 23:28:11 GMT
From: "Adam R. Brody " <brody@eos.arc.nasa.gov>
Subject: Calendar and Zodiac
Newsgroups: sci.space

gmcquary@Ingres.COM (George F. McQuary) writes:

>The main question is will the seasons occur in other months of the year than
>currently. The answer is no. The Gregorian year is defined as starting
>exactly ten days after the winter solstice. The current system of leap days is
>a forecast of how to maintain the constant of Dec 21, but would change if
>necessary. (If a large enough metor hit the earth to change the current
>forecasts, however, there would probably be larger problems to deal with than
>resetting the calendar...) As long as the calendar is kept in sync with the
>sun, the rhythm of the seasons will continue to occur at the same time in the
>calendar.

>George F. McQuary
>"He is mad, bad and dangerous to know." -Lady Caroline Lamb

The point is that while the period of revolution around the sun (year) is
roughly constant, the seasons shift backwards roughly one month every
2000 years due to precession. You can think of it as the Earth's axis
getting tangent to its orbit (equinox) before a complete revolution (year).
Over 2000 years, the equinox will be at Feb 21 rather than March 21.
Accepting the fact that Pope Gregory corrected for the past 2000 years,
how are we currently accounting for precession in the calendar?

Date: 29 Jul 92 05:49:46 GMT
From: John Roberts <roberts@CMR.NCSL.NIST.GOV>
Subject: Calendar and Zodiac
Newsgroups: sci.space

-From: dj@ssd.kodak.com (Dave Jones)
-Subject: Re: Calendar and Zodiak
-Date: 28 Jul 92 19:47:36 GMT

-[Dennis]
->Today in the Northern Hemisphere's summer, the earth is at the apogee of its
->orbit around the sun. As the precession continues on its merry way this will
->be the main parameter that will change. In 12,900 years the northern hemisphere
->will be in its summer when the Earth is at perigee. (I know these are the wrong
->terms, I just don't remember the right ones for sun centered orbits).
->
-Aphelion and Perihelion. We're going to need generic terms for nearest
-& farthest points from the primary. Perigee, periselenion, perihelion,
-perijove, periarion (?).....betcha everyone just says apogee and
-perigee in the end.

It's apoapsis and periapsis, with the plurals (gag) apoapsides and
(choke) periapsides. I would strongly support the use of apogee/apogees
and perigee/perigees as the generic terms. (After all, "geology" is tending
to become an acceptable term for the study of rock formations on other
worlds.) Note that apogee and perigee have been part of the English language
so long that English-style plurals have become acceptable.

John Roberts
roberts@cmr.ncsl.nist.gov

Date: 29 Jul 92 01:06:50 GMT
From: "Richard A. Schumacher" <schumach@convex.com>
Subject: Clinton Space Position

Newsgroups: sci.space

In <1992Jul28.143654.17945@walter.bellcore.com> ddavey@iscp.bellcore.com (Doug Davey
>However, I would respectfully ask that those who neither pay the taxes
>nor vote in the elections kindly refrain from posting politcal analyses
>of political statements from the USAian election campaign. If you have a
>technical reason why something a candidate proposes is a good or bad idea,
>fine. However, a cross border political analysis is rude at best. Thanks.

Typical of a United Statesian: ask the most intelligent participant in
an enterprise to leave, merely because he's a foreigner.

I respectfully request that we hear more from all persons of intelligence
and less from all jingoes and dolts. Thanks.

Date: Wed, 29 Jul 1992 01:48:00 GMT
From: University Space Society <st17a@judy.uh.edu>
Subject: Clinton Space Position
Newsgroups: sci.space

In article <14223@ksr.com>, jfw@ksr.com (John F. Woods) writes...
>ddavey@iscp.bellcore.com (Doug Davey) writes:
>>Henry, your technical postings are probably the best things in sci.space.*.
>> However, a cross border political analysis is rude at best.
>
>Especially when he has the gall to be dead on the mark.
>
>>Stop Canadian Imperialism!
>
>Keep that up and they'll take back the Canadarm.

Go for it Henry. It is nice to see an outside opinion sometimes. The BBC
world report had a wonderful report on how the democratic party manipulates
the U.S. news media by having congressional staffers "interview" their bosses
as if they were reporters asking real questions. Lots of other chicanery
was reported on that will never be shown here.

Dennis, University of Alabama in Huntsville

Revive the Saturn V!

Date: Wed, 29 Jul 1992 01:44:00 GMT
From: University Space Society <st17a@judy.uh.edu>
Subject: Delta
Newsgroups: sci.space

In article <1992Jul28.161541.16680@nntpd.lkg.dec.com>, hughes@gary.enet.dec.com (Gar
>
>In article <27JUL199219250158@judy.uh.edu>, seds%cspar.decnet@Fedex.Msfc.Nasa.Gov w
>>You know what's funny here is that this idea was tried successfully about
>>thirty years ago. The boosters that were paralled together were Redstones, and
>>the vehicle produced was the Saturn I and IB. Very successful rockets, 28
>>launches and *NO* failures.
>>

>
>Uh, not really. The S-I stage was built out of Redstone and Jupiter structural
>parts (i.e. tanks), but propulsion, guidance and components to tie all this
>together were all new.
>
>The HL Delta idea was to cluster complete Delta 1st stage cores, functioning
>independantly, i.e. if one engine shutdown early there would be no way to
>transfer the propellants from that core and run the other engines longer to
>compensate. Avoiding complexities like this would have kept the development
>time/cost down.
>
>gary

Gary where did you get this info? I went over to the Alabama Space and Rocket Center and looked at the Saturn IB there and looked at some of the drawings that I happen to have inherited from some of my German friends and they engines and tanks sure look independant to me. There are 8 tanks, eight engines, eight sets of propulsion plumbing. The beauty of the design is that if one engine goes south then you do not lose the mission due to some screw up in the fuel system. The rocket team was working on an extremely tight budget on the Saturn I stage. It was completed and tested for the first time BEFORE the Army Ballistic Missile Command was transferred to the Jurisdiction of NASA. (ground and not flight test) The first flight of the Saturn I was before the Gemini launches on the Titan II. I think it was in 63. A good book on the early days of the Von Braun team at Redstone Arsenal and a good prophetic insight on the burgeoning NASA space program is to be had in "Count Down To Decision" By General Bruce Medaris, Who was Von Brauns boss at the ABMA. It also tells how the Saturn I was funded as well as the Redstone. One funny story in the book describes the idiotic budgetary constraints that would not let Von Braun order a typwriter for his secretary, so they ordered a "rotary data recording device". That got through the purchasing department like a breeze. You are right that the avionics were new, so will the Delta's in a clustered set up.

Dennis, University of Alabama in Huntsville

Date: Wed, 29 Jul 1992 04:09:49 GMT
From: Henry Spencer <henry@zoo.toronto.edu>
Subject: Delta
Newsgroups: sci.space

In article <28JUL199220442331@judy.uh.edu> st17a@judy.uh.edu (University Space Socie
>....engines and tanks sure look independant to me. There are 8 tanks,
>eight engines, eight sets of propulsion plumbing...

Sorry, Dennis, there were *nine* tanks: a Jupiter-diameter tank in the middle and eight Redstone-diameter tanks around it. All were lengthened from the originals. None had horizontal partitions -- the central tank and four of the outside ones carried LOX, the remaining four outside tanks kerosene. The two sets of four outside tanks were slightly different, because the LOX tanks carried all the structural loads while the fuel tanks had slip joints at their upper ends to accommodate the thermal contraction of the LOX tanks. Each fuel tank nominally fed two engines, and the central LOX tank fed the outboard LOX tanks, which in turn each fed two engines... but there *was* an interconnection network to maintain vehicle balance in case one set of engines was a bit thirstier than another. The eight engines were not precisely identical either, because only the outer four were gimballed, and

details like disposal of turbopump gases differed.

Ref: Stages to Saturn, NASA SP-4206.
--
There is nothing wrong with making mistakes, but... make *new* ones. -D.Sim | Henry Spencer @ U of Toronto Zoology
henry@zoo.toronto.edu utzoo!henry

Date: Tue, 28 Jul 1992 22:11:00 +0000
From: P & S Ltd - Accounts Dept <pands@cix.clink.co.uk>
Subject: Does anyone know ..
Newsgroups: sci.space

I've got a question for the collected experts out there ..

I've been reading the current issue of Space News (July 27 - August 9), and the article on secrecy of military launches (page 12) mentioned a book by Jeff Richelson called "America's Secret Eyes in Space" published in 1990. I'd like to get a copy, does anyone know the ISBN and publisher please?

Thanks,

Paul

----------< Who 'zat >----------
Paul Wilson, P-and-S Ltd, P O Box 54, Macclesfield, SK10 5EH, UK
pands@cix.compulink.co.uk

Date: 29 Jul 92 07:16:18 GMT
From: Bill Higgins-- Beam Jockey <higgins@fnala.fnal.gov>
Subject: Inverse Ephemeris (time as a function of position) Wanted
Newsgroups: sci.space,sci.astro

In article <MURPHYG.92Jul28080134@murphyg.Software.Mitel.COM>, murphyg@Software.Mite
> In article <1992Jul27.190630.15531@cco.caltech.edu> rmm@ariane.ipac.caltech.edu (M
>>
>>   I am in need of an inverse ephemeris for the sun. That is, I am
>>   looking for function that returns the time of year, given the position
>>   of the sun in geocentric ecliptic coordinates and a year of interest
>>   (e.g., 1994).
>
> Does this imply JPL is investigating Nostradamus? :-)

No, Gary, it means they're building a time machine with accuracy of order a few months. They want to make sun sightings to see which day they've landed in.

Come to think about it, this doesn't rule out investigating Nostradamus, does it? It would be tremendously useful if they could get him to predict the JPL budget for the next decade or two.
But I'm afraid the project is doomed to failure. I've been reading Randi's book, and it looks like Michel d'Notradame never gave a straight answer to anybody...

"Do you know the asteroids, Mr.Kemp?...   Bill Higgins

Hundreds of thousands of them. All wandering around the Sun in strange orbits. Some never named, never charted. The orphans of the Solar System, Mr. Kemp."

"And you want to become a father."
--*Moon Zero Two*

Fermilab

higgins@fnal.fnal.gov

higgins@fnal.bitnet

SPAN/Hepnet: 43011::HIGGINS

Date: 24 Jul 92 17:13:14 GMT
From: Ralph Buttigieg <ralph.buttigieg@f635.n713.z3.fido.zeta.org.au>
Subject: Solar Power Satellites
Newsgroups: sci.space

Original to: Pgf@Srl03.Cacs.Usl.Edu
pgf@srl03.cacs.usl.edu (Phil G. Fraering), wrote:

p> That's what bothers me about all the people griping about light pollution
p> from the SPS's. They probably won't be much brighter than Jupiter, and
p> in most major cities, the light pollution will be so bad you'll be lucky
p> to see the powersats to
begin with.

Well, will they? I have never seen anyone give an actual magnitude estimate. Several popular books have them "brighter then any star or planet" but that all.

Regarding current light pollution: I live in suburban Sydney Australia. A reasonably large city with no real light pollution controls. Yet a 40 minute drive will get me to my astronomy club's observatory with good dark skys. Another 2-3 hours drive will get me to my friends country farm with *excellent* viewing. My fear is that the
sky around all the inhabitated regions will be washed out.
ta
Ralph

--- Maximus 2.01wb
* Origin: Vulcan's World-Sydney Australia 02 635-1204 (3:713/635)

Date: 29 Jul 92 05:36:13 GMT
From: John Roberts <roberts@CMR.NCSL.NIST.GOV>
Subject: Space position(s)
Newsgroups: sci.space

-From: henry@zoo.toronto.edu (Henry Spencer)
-Subject: Re: Clinton Space Position
-Date: 28 Jul 92 20:36:09 GMT
-Organization: U of Toronto Zoology

-Political analyses? Heaven forbid. I don't understand US politics well
-enough to analyze them. :-) I was merely translating some of the Clinton
-position from campaignspeak (which is as international as graft, stupidity,
-shortsightedness, and voter ignorance and apathy) into the sci.space
-vernacular. I wasn't making any attempt to read between the lines or infer

-an overall position -- just pointing out what the statement's own words
-clearly mean. Do you really think any of my translations are wrong?

Yes.

That is, if selecting some interpretations that are pessimistic beyond reasonable justification counts as wrong, then yes.

Campaign platforms are usually somewhat ambiguous in their wording, partly for political reasons, and partly for want of room to describe everything in detail. Are you seriously suggesting that it's possible to produce a single unambiguous "translation", using only the single text source as input? If not, then it's not just translation - there's some personal interpretation involved. If it's a matter of personal interpretation, then it shouldn't be put forth as "translation", and other sources should be accepted as input.

For instance, consider the Clinton statements in 1992Jul10.013552.6947@access.digex.com. If that is added to the context, then it would appear that Clinton has made definite statements favoring manned missions to the moon and Mars. Given the current political environment (SEI pretty much out of favor), if he were not really interested in it, he could be much less supportive of it (or even speak unfavorably of it) at little or no political cost (or perhaps even a slight political gain). This is at least some indication that there is genuine interest.

The current Administration also appears to be genuinely interested in SEI. Whether promoting a highly ambitious program but being unable to find funding is preferable to promoting a less ambitious program for which there might be some realistic chance of funding or vice versa is a matter of opinion. I'm inclined to suspect that the *net result* is similar in both cases, provided the interest is genuine.

The present Administration's record appears to have been generally supportive of space exploration. Clinton says that he's in favor of it, though of course he hasn't been in office to prove he means what he says. Statements of support from both candidates has to be considered at least somewhat encouraging to space enthusiasts.

(By the way, whose idea was setting up a program and calling it "Space Exploration Initiative"? If the idea was to develop a focus for ideas, then it has been fairly successful. If the idea was to promote increased funding, then it seems to have been less successful.)

-I would, in any case, defend my right to comment on issues that affect
-all mankind, such as the fate of what is now our species' leading space
-program.

Well sure, comment on whatever you want. (And so will we. :-)
Canada in particular has a strong interest in the well-being of the US space program, which is why I have supported technical input from Canadians.

John Roberts
roberts@cmr.ncsl.nist.gov

Date: 29 Jul 92 00:55:39 GMT
From: Bill Johnson <wsj@triton.wpd.sgi.com>

Subject: Star Trek Realism
Newsgroups: sci.space

In article <1992Jul27.165309.106551@cs.cmu.edu>, 18084TM@msu.edu (tom) writes:
|> As long as we're on the Star-Trek vs. reality thread, here's a question
|> that used to come up before my housemate Doug said "Shut up and just watch
|> the show!": When the ship is streaming through space, stars moving past
|> at several per second, how is it that the ship is steadily lit from one
|> side? What is the source for this light? It's pretty bad when you aren't
|> even into the actual show, and it's already violating known principles :-)

Much as I enjoy Star Trek, this has always bugged me. Another thing which bugs me is the way stars stream rapidly past the ship when they're traveling within the same star system. AND the "whoosh" noise you hear when they're showing the Enterprise (from the outside) cruising through interstellar space. AND the way the shuttles bank and turn as if they're airplanes. AND the fact that the Enterprise can accelerate at accelerations which *must* be many multiples of one gravity, with no perceived acceleration inside the ship, but a phaser hit knocks the crew out of their chairs. AND...

--
Bill Johnson 9U-530 wsj@wpd.sgi.com
Silicon Graphics, Inc. Office:(415) 390-1440
Systems Software Technology Center Fax:(415) 969-2314

Date: 29 Jul 92 01:35:34 GMT
From: John Stevenson <hangfore@spf.trw.com>
Subject: Star Trek Realism
Newsgroups: sci.space

In article <nsmc5kc@twilight.wpd.sgi.com> wsj@triton.wpd.sgi.com (Bill Johnson) writes:
> (deletions for brevity)
> inside the ship, but a phaser hit knocks the crew out of their chairs.
> AND...
>
> --
> Bill Johnson 9U-530 wsj@wpd.sgi.com
> Silicon Graphics, Inc. Office:(415) 390-1440
> Systems Software Technology Center Fax:(415) 969-2314

And No seat belts. How many crew members have been killed or seriously injured because they didn't wear their seat belts :-o

John Stevenson
hangfore@spf.trw.com

Date: 28 Jul 92 20:39:28 GMT
From: "gary l. schroeder" <schroede@bnlux1.bnl.gov>
Subject: Star Trek Realism
Newsgroups: sci.space

In article <9207280200.AA24681@cmr.ncsl.nist.gov> roberts@CMR.NCSL.NIST.GOV (John Ro
>
>-From: 18084TM@msu.edu (tom)

>-Subject: Star Trek Realism
>-Date: 27 Jul 92 16:47:03 GMT
>
>-As long as we're on the Star-Trek vs. reality thread, here's a question
>-that used to come up before my housemate Doug said "Shut up and just watch
>-the show!": When the ship is streaming through space, stars moving past
>-at several per second, how is it that the ship is steadily lit from one
>-side? What is the source for this light? It's pretty bad when you aren't
>-even into the actual show, and it's already violating known principles :-)
>

As for the stars streaking by...I never really assumed that they were stars. Could they be some optical phenomena of FTL travel? Remember the same effect seen when the Millenium Falcon was in "hyperdrive"? Were those things necessarily stars?

As for the point about where is the source of illumination come from...yeah, I've thought about that one too. That's about when I "shut up and just watch the show!"

--

Gary Schroeder
schroede@bnlux1.bnl.gov
Brookhaven National Laboratory "Home of the Big BNL Burger."

Date: □P
From: □P

Organisation: European Space Operation Centre (E.S.O.C)
Date: Tuesday, 28 Jul 1992 08:35:10 CET
From: RFLOOD@ESOC.BITNET
Mmdf-Warning: Parse error in original version of preceding line at CRABAPPLE.SRV.CS
Message-Id: <92210.083510RFLOOD@ESOC.BITNET>
Newsgroups: sci.space
Subject: Re: ESA Future
References: <63998@hydra.gatech.EDU> <1992Jul21.192638.5594@eng.umd.edu>
<64068@hydra.gatech.EDU> <1992Jul22.205756.18386@vexcel.com>
Lines: 4
Sender: news@CRABAPPLE.SRV.CS.CMU.EDU
Source-Info: Sender is really isu@VACATION.VENARI.CS.CMU.EDU

Despite my address, this is a private comment to the query about ERS-1. There was some sort of hitch during July, but the mission is up and running again with no problems, I understand. (Not my area of work).
RaF

End of Space Digest Volume 15 : Issue 048

Biblio Patents

16/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011493844 **Image available**
WPI Acc No: 1997-471757/199744
XRPX Acc No: N97-393348
Chinese nation cultural clocks and watches
Patent Assignee: CHEN Y (CHEN-I)
Inventor: CHEN Y
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1119754	A	19960403	CN 95110642	A	19950220	199744	B

Priority Applications (No Type Date): CN 94U211036 U 19940513; CN 94U204784 U 19940220; CN 94U207052 U 19940318
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1119754	A			G04B-019/10	

Abstract (Basic): CN 1119754 A
The present invention relates to a modern pointer- type 12 two- **hour time** system dial plate on which the twelve Earthly Branches, the 12 two- **hour time** , the names of the twelve animals used to symbolize the **year** in which a person is born and t he 24 solar terms are ingeniously applied instead of the Arabic numerals and Roman numerals to indicate the **time** and **hour** . The invention changes the single function of indicating **time** of the existing pointer-type clock and watch, and can indicate **year** , **month** , calculate age, indicate the **astronomical** position of rotation of **ecliptic** and help to look at the solar terms to know well farming season.
Dwg.1/1
Title Terms: CHINESE; NATION; CULTURE; CLOCK; WATCH
Derwent Class: S04
International Patent Class (Main): G04B-019/10
File Segment: EPI

16/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011438158
WPI Acc No: 1997-416065/199739
XRPX Acc No: N97-346644
Ecliptic **theodolite**
Patent Assignee: YANG Y (YANG-I)
Inventor: YANG Y
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1113566	A	19951220	CN 93119225	A	19931019	199739	B

Priority Applications (No Type Date): CN 93119225 A 19931019

Abstract (Basic): CN 1113566 A
The **ecliptic** theodolite calculates for positions of the world, where the latitude is less than 66.5, the sun's elevating angle and

azimuth, **day** and night **time** length, sunshine energy, moonshine energy and annual shining energy using a calendar and a map other than **astronomical** almanac.

USE - For scientific research and as educational instrument.

Dwg.0

Title Terms: THEODOLITE
Derwent Class: S02
International Patent Class (Main): G01C-001/02
File Segment: EPI

16/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011283085 **Image available**
WPI Acc No: 1997-260990/199724
XRPX Acc No: N97-215686

Astronomical **clock with graphic ephemeris display - gives accurate position of planets and other data using complex wheel movement and exchangeable cylinders**

Patent Assignee: DACHSEL C (DACH-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 29704841	U1	19970507	DE 97U2004841	U	19970310	199724	B

Priority Applications (No Type Date): DE 96U2020866 U 19961121
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29704841	U1		27	G04B-019/26	

Abstract (Basic): DE 29704841 U

The **astronomical** clock with a complex multiple wheel movement has a graphic ephemeris display in the form of a cylinder holding a printed roll of paper and a scale of paper or plastic. This is mounted on a vertical axis linked to the movement and turning above the timepiece. It will give the **date** , **time** of **year** , phases of the moon, orbit of the sun, positions of the planets in our solar system, details of solar and lunar **eclipses** etc.

The cylinder and scale can be changed according to the precise information required, such as whether it is to be geocentric or heliocentric or the **time** -span to be covered. The clock can thus be used for **astronomical** , **astrological** , cosmobiological or astromedical purposes. It may be mechanical or have an electrical or quartz drive.

ADVANTAGE - System of changeable cylinders for graphic ephemeris display gives **astronomical** clock with many uses which is not excessively expensive.

Dwg.4/4

Title Terms: **ASTRONOMY** ; CLOCK; GRAPHIC; DISPLAY; ACCURACY; POSITION; PLANET; DATA; COMPLEX; WHEEL; MOVEMENT; EXCHANGE; CYLINDER
Derwent Class: S04
International Patent Class (Main): G04B-019/26
International Patent Class (Additional): G04B-047/00
File Segment: EPI

16/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010420259 **Image available**
WPI Acc No: 1995-321574/199542
XRPX Acc No: N95-242012

Indicating system which reproduces actual position of celestial bodies on dome - involves rotating and indicating at each point in time, orientation of stars, sun, moon and planets relative to standing position of observer

Patent Assignee: RICHTER P H (RICH-I)
Inventor: RICHTER P H
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4419227	A1	19950914	DE 4419227	A	19940601	199542	B
DE 4419227	C2	19980409	DE 4419227	A	19940601	199818	

Priority Applications (No Type Date): DE 4406699 A 19940302
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4419227	A1		13	G04B-049/00	
DE 4419227	C2		13	G04B-049/00	

Abstract (Basic): DE 4419227 A

The method involves selecting a normal on the ecliptic as the symmetry axis (14) for the reprodn. of the sky on the dome (11), which is rotationally symmetrical relative to the symmetry axis. The dome rotates in the course of a star day about a spatially fixed axis which goes from the spatial centre point (16) of the dome, through the image of the celestial N pole on the dome and in the direction of the geographical celestial pole.

One star at least and the course of the **ecliptic** (17) are reliably **plotted** and the positions of the sun, moon (33), planets (34) and a course of the equator (27) are projected computer controlled on the dome.

ADVANTAGE - For sun and star time transmitter. Reproduces celestial sky with actual position of celestial bodies at observation point with true orientation.

Dwg.2/5

Title Terms: INDICATE; SYSTEM; REPRODUCE; ACTUAL; POSITION; CELESTIAL; BODY ; DOME; ROTATING; INDICATE; POINT; TIME; ORIENT; STAR; SUN; MOON; PLANET; RELATIVE; STAND; POSITION; OBSERVE
Derwent Class: P85; S04
International Patent Class (Main): G04B-049/00
International Patent Class (Additional): G09B-027/02
File Segment: EPI; EngPI

16/5/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008552724 **Image available**
WPI Acc No: 1991-056775/199108
XRPX Acc No: N91-043830

Astronomical **planisphere - uses base disc with sun and planets inside outer disc, attached at angle to column with** astronomical **scales**

Patent Assignee: TSVETOV R I (TSVE-I)
Inventor: TSVETOV R I
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1554010	A	19900330	SU 4302575	A	19870917	199108	B

Priority Applications (No Type Date): SU 4302575 A 19870917

Abstract (Basic): SU 1554010 A

The planisphere consists of base (1), mounting bush (2) and column (3) held by the bush with freedom to rotate about its long axis. Base disc (4) carries model (5) of the Sun. Model (6) of the Earth and of the other planets in the solar system run in tracks round the model Sun. Outer disc (7) encircles the base disc and is attached directly to column (3) at an angle of 66 degrees 34 **minutes** to its long axis. Dial indicators (8,9) correspond to sidereal and mean **times** respectively. Ruler (10) and goniometer (11) measure declination and SHA or latitude respectively.

The planisphere can be used to demonstrate variations in the positions of the bodies in the solar system over a single **day** , together with **astronomical** phenomena associated with changes in the plane of the **ecliptic** over a **day** and a **year** respectively, the apparent annual motion of the Sun etc.

USE/ADVANTAGE - As a teaching aid for demonstrating **astronomical** phenomena by varying the positions of the planets in a model solar system. Demonstrations can be given for any point on Earth, for any **time** of **day** and for any **day** of the **year** . Bul.12/30.3.90. Dwg.1/6

Title Terms: **ASTRONOMY** ; PLANE; BASE; DISC; SUN; PLANET; OUTER; DISC; ATTACH; ANGLE; COLUMN; **ASTRONOMY** ; SCALE
Derwent Class: P85
International Patent Class (Additional): G09B-027/00
File Segment: EngPI

16/5/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008098174 **Image available**
WPI Acc No: 1989-363286/198949
XRPX Acc No: N89-276181

Astronomy **and geography teaching aid - comprises globe with coordinate lattice, three scale rings representing earth and celestial equators and plane of** ecliptic

Patent Assignee: POLOVNIKOV V I (POLO-I)
Inventor: IVANOV L D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1464199	A	19890307	SU 4287217	A	19870720	198949	B

Priority Applications (No Type Date): SU 4287217 A 19870720
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1464199	A		7		

Abstract (Basic): SU 1464199 A

The aid consists of globe (3), with a coordinate lattice coupled by axis (27) to motor (36), together with three rings carrying scales (30-32). Two of these simulate the vernal and autumnal equinoxes, while the third represents the **ecliptic** . Mean-Sun model (5), fixed to holder (6), is linked by gearing (7) to motor (39), while the model of

the virtual sun (8) is attached to moving carriage (12), with two hinged levers (9) linking it to holder (6). After setting the initial position of the mean Sun, further motion of the virtual Sun along **ecliptic** ring (32) causes it to deviate from the model of the mean Sun. All measurements of sidereal, virtual and mean **time** are then read from scale rings (30-32) and the scale of the celestial sphere relative to the observer.

USE/ADVANTAGE - As an aid to teaching **astronomy** and geography. Arrangement is made to demonstrate the point of vernal equinox, to demonstrate the positioning of the virtual and mean Sun relative to an observer at any point on the Earth and show the meansings of sidereal, virtual and mean **times** . Bul.9/7.3.89.

Title Terms: **ASTRONOMY** ; GEOGRAPHICAL; TEACH; AID; COMPRISE; GLOBE; COORDINATE; LATTICE; THREE; SCALE; RING; REPRESENT; EARTH; CELESTIAL; EQUATOR; PLANE

Derwent Class: P85

International Patent Class (Additional): G09B-027/02

File Segment: EngPI

16/5/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

007095667

WPI Acc No: 1987-095664/198714

XRPX Acc No: N87-071884

Illuminated model of terrestrial globe - has clock mechanism moving illuminated region over globe surface in accordance with daily and annual cycle

Patent Assignee: DOMEN J P A (DOME-I); LE CREN R (LCRE-I)

Inventor: DOMEN J P

Number of Countries: 007 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 217707	A	19870408	EP 86402018	A	19860915	198714	B
FR 2590058	A	19870515				198725	
US 4714351	A	19871222	US 86910500	A	19860923	198801	
EP 217707	B	19900627				199026	
DE 3672313	G	19900802				199032	

Priority Applications (No Type Date): FR 8514386 A 19850927; US 86910500 A 19860923

Cited Patents: A3...8830; DE 1622963; FR 1425541; FR 1437285; FR 2390788; FR 836450; No-SR.Pub; US 3527046

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 217707	A	F	29		
Designated States (Regional): CH DE FR GB IT LI					
US 4714351	A		12		
EP 217707	B				
Designated States (Regional): CH DE FR GB IT LI					

Abstract (Basic): EP 217707 A

A light source (76) is provided, with a screen (46) mounted inside it in order to illuminate half of the shell of the globe at any one **time** . A clock mechanism turns the zones w.r.t the globe following the pattern of **days** and **years** . The mechanism includes a polar bearing (14) linking a shaft to the shell and a further shaft (38) at an angle to the polar shaft controlling the angle of inclination of the equator

to the **ecliptic** .

In normal use the screen turns about the polar axis once a **day** , and about the secondary axis (38) once per **year** . An image of the sun may also be projected on to the shell of the globe. The mechanism also includes a stepping motor driven by a control circuit producing given frequency pulse trains.

USE - Globe for teaching geography and **astronomy** , as well as for lighting and decoration.

1/4

Title Terms: ILLUMINATE; MODEL; TERRESTRIAL; GLOBE; CLOCK; MECHANISM; MOVE; ILLUMINATE; REGION; GLOBE; SURFACE; ACCORD; DAILY; ANNUAL; CYCLE
Derwent Class: P85; S04; W04
International Patent Class (Additional): G04B-019/22; G09B-027/08
File Segment: EPI; EngPI

16/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004748949
WPI Acc No: 1986-252290/198638
XRPX Acc No: N86-188538

Astronomical **magnitude indicator wrist watch - has multiple planetary gear train with different ratios for solar, lunar and** eclipse **pointers**

Patent Assignee: GIGER U (GIGE-I); ULYSSE NARDIN SA (ULYS-N)
Inventor: GIGER U
Number of Countries: 007 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 8605288	A	19860912	WO 85CH106	A	19850701	198638 B
EP 195742	A	19860924	EP 86810110	A	19860303	198639
CH 658763	A	19861215				198702
CH 658763	B	19870615				198731
JP 62502138	W	19870820	JP 85502830	A	19850701	198739
US 4711583	A	19871208	US 86932546	A	19861105	198751
EP 195742	B	19910102				199102
DE 3676324	G	19910207				199107

Priority Applications (No Type Date): CH 85986 A 19850305; US 86932546 A 19861105
Cited Patents: CH 627042; EP 107177; US 463101; US 3766727; WO 8203472
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8605288	A	F	22		
	Designated States (National): JP US				
EP 195742	A	F			
	Designated States (Regional): CH DE FR GB LI				
EP 195742	B				
	Designated States (Regional): CH DE FR GB LI				

Abstract (Basic): WO 8605288 A

A spider wheel represents the division of the **ecliptic** into **Zodiacal** signs and of the equator into **months** . It is mounted between a planisphere (6) portraying the sky as seen from latitude 46 deg. N, and a stack of pointers denoting local solar **time** , lunar phase, and **eclipses** , under the **hour** and **minute** hands.

All are driven by a planetary gear train (19) supported in a ring (11) by a ball bearing (20). The motive power and **time** reference are supplied by a movement which drives the planet-wheel carriers (21,22)

and the superimposed gear trains simultaneously. The gear ratios are calculated to suit the functions of their respective pointers.

ADVANTAGE - Versatility and accuracy are combined with robustness and reliability expected of wrist-watch. (22pp Dwg.No.3/10

Title Terms: **ASTRONOMY** ; MAGNITUDE; INDICATE; WRIST; WATCH; MULTIPLE; PLANET; GEAR; TRAIN; RATIO; SOLAR; LUNAR; **ECLIPSE** ; POINT
Derwent Class: S04
International Patent Class (Additional): G04B-013/00; G04B-019/26
File Segment: EPI

16/5/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004553089
WPI Acc No: 1986-056433/198609
XRPX Acc No: N86-041251
Projection sun clock with transparent dome - calibrates tracks of sun as hour graduations with read-off at datum point
Patent Assignee: TONNE F (TONN-I)
Inventor: TONNE F
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3429750	A	19860220	DE 3429750	A	19840813	198609	B

Priority Applications (No Type Date): DE 3429750 A 19840813
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3429750	A		5		

Abstract (Basic): DE 3429750 A

The sun clock is in the form of a shell of transparent material. By regarding the sky from a point of visible sun ecliptics it is correspondingly marked with hour graduations. Projected markings from the sun's rays on a projection plane are made readable at a fixed reference point (read-off point).

The hollow shell consists of at least a hemisphere, the equatorial plane of which is used as the projection plane, and is marked with a read-off point. At the bottom of the dome is a horizontal disc. On the top of the dome the sun **ecliptics** are **plotted** , the hour graduations representing the position of the sun. The sun is seen through the dome and the corresp. time of year and hour of the day is given on the dome diagram. In reverse, the sun can throw a shadow image of the sun position diagram on to the horizontal disc and the time read off from the read-off point.

USE/ADVANTAGE - Sun clock globe, compass or sensor for the control of sun protection plant as 'panorama sensor'. Usable as a full sphere for all degrees of latitude and longitude. (5pp Dwg.No.0/2

Title Terms: PROJECT; SUN; CLOCK; TRANSPARENT; DOME; CALIBRATE; TRACK; SUN; HOUR; GRADUATED; READ-OFF; DATA; POINT
Derwent Class: S04
International Patent Class (Additional): G04B-049/04
File Segment: EPI

16/5/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002386481
WPI Acc No: 1980-K2951C/198043
Tables for astrological **horoscope - has annual almanacs covering all** zodiacal **degrees with opposite pages referring to opposite signs on** ecliptic **circle**
Patent Assignee: LEFEBVRE D (LEFE-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2445996	A	19800905				198043	B

Priority Applications (No Type Date): FR 7992 A 19790103

Abstract (Basic): FR 2445996 A

The **astronomical** data comprises 360 annual almanacs, one for each **zodiacal** degree. Each almanac forms one page of a book and each page is **placed** against another dealing with the opposite **zodiacal** degree on the **ecliptic** circle.

Each annual almanac compriss a grid or table having at least 365 or 366 boxes. Each box represents one **day** and contains details of the relevant **astronomical** positions and aspects. Further grids provide monthly data, each containing a maximum of thirty one boxes. These are all used in conjunction with tables covering the twelve **astrological** houses.

Title Terms: TABLE; **ASTROLOGY** ; HOROSCOPE; ANNUAL; COVER; **ZODIAC** ; DEGREE ; OPPOSED; PAGE; REFER; OPPOSED; SIGN; CIRCLE
Derwent Class: P85
International Patent Class (Additional): G09D-003/00
File Segment: EngPI

16/5/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

002348546
WPI Acc No: 1980-F4996C/198025
Teaching aid for astronomy **- uses pointer mounted quadrant showing solar scale and indicator mounting shadow forming projections**
Patent Assignee: BAIBEKOV KH F (BAIB-I)
Inventor: BAIBEKOV K H F
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 694888	A	19791128				198025	B

Priority Applications (No Type Date): SU 2437122 A 19761228

Abstract (Basic): SU 694888 A

Prototype includes the base ("1") supports (2) for axles (3) mounting vertical pillars (4) with the screwed (6) brackets (5); an **ecliptometer** and a sighting tube with eyepiece. To wid en the scope for demonstration, the pointer (13) is introduced along with a solar scale quadrant (16), indicator (17) a and shading projections (18, 19) and the eyepiece is darkened and with a central orifice.

In the invention provision is now made to determine local apparent solar **time** and **astronomical** parameters in terain orientation. To measure apparent solar **time** , the pointer is set pointing to the sun, fixing the pillars in the necessary position. Simultaneously turning the pointer and indicator, a linear shadow is cast by the first

projection and a plate on the **second** projection and a horizontal area correspondingly. Simultaneous appearance of these two shadows corresponds to setting on the local meridian and the pointer angle corresponds to the required **time** .

Title Terms: TEACH; AID; **ASTRONOMY** ; POINT; MOUNT; QUADRANT; SOLAR; SCALE; INDICATE; MOUNT; SHADOW; FORMING; PROJECT
Derwent Class: P85
International Patent Class (Additional): G09B-027/04
File Segment: EngPI

16/5/12 (Item 12 from file: 347)
DIALOG(R)File 347:JAPIO

02172083 **Image available**
TIMEPIECE WITH TWILIGHT DISPLAY

PUB. NO.: 62-088983 [JP 62088983 A]
PUBLISHED: April 23, 1987 (19870423)
INVENTOR(s): UEHARA HIDEO
APPLICANT(s): CITIZEN WATCH CO LTD [000196] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 60-229170 [JP 85229170]
FILED: October 15, 1985 (19851015)
INTL CLASS: [4] G04B-019/26
JAPIO CLASS: 29.3 (PRECISION INSTRUMENTS -- Horologe)
JOURNAL: Section: P, Section No. 619, Vol. 11, No. 293, Pg. 132, September 22, 1987 (19870922)

ABSTRACT

PURPOSE: To provide a twilight display function to a timepiece by displaying a sun position on a display plate which makes one turn in one sidereal **day** and displaying the horizontal and twilight threshold line on a dial or windshield disposed in superposition on the display plate.

CONSTITUTION: A constellation display window 6b and a twilight discrimination window 6c for seeing through of a constellation display plate 2 are provided. The 1st constellation display part 7 is constituted of the constellation display window 6b, the twilight discrimination window 6c and the constellation display plate 2. The window 6c is enclosed of an arc 6g, an arc 6h and an arc-shaped curve 6i indicating the **astronomical** twilight threshold line, and is so constituted as to indicate the state in which it is not twilight by the sun if the sun position corresponding to the **date** on the **ecliptic** 2b drawn on the display plate 2 disposed in superposition under the dial 6 is within the window 6c, the daytime state if said position is within the window 6b, and the state under the twilight if the position is concealed under the dial 6. The twilight state is thus exactly discriminated by the simple wheel train constitution.

16/5/13 (Item 13 from file: 347)
DIALOG(R)File 347:JAPIO

02025088 **Image available**
TIMEPIECE PROVIDED WITH **ASTROLOGICAL** FUNCTION

PUB. NO.: 61-239188 [JP 61239188 A]
PUBLISHED: October 24, 1986 (19861024)
INVENTOR(s): NABEYAMA TAKATOSHI

SAKIDA HIDEKAZU
APPLICANT(s): CITIZEN WATCH CO LTD [000196] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 60-080778 [JP 8580778]
FILED: April 16, 1985 (19850416)
INTL CLASS: [4] G04B-019/26; G04B-019/28
JAPIO CLASS: 29.3 (PRECISION INSTRUMENTS -- Horologe)
JOURNAL: Section: P, Section No. 556, Vol. 11, No. 84, Pg. 99, March 13, 1987 (19870313)

ABSTRACT

PURPOSE: To obtain a timepiece with consists of a simple mechanism, can be manufactured easily, and also can be execute easily fortunetelling, by drawing a moth display in which the whole periphery is one **year** , one the first display board, and drawing fortune information on the **second** display board, so that they can be rotated relatively.

CONSTITUTION: On a dial 5 which becomes the first display board for indicating a solar position on the **ecliptic** , the periphery is divided equally into 12 parts, and numerals 5b of burthmonths of January through December, and 12 pieces of constellation symbol marks 5c of the birthmonths, etc. are provided. Also, on a fortunetelling board 4 which becomes the **second** display board for indicating moon position on the moon's path, moon marks for an **astrology** , fortune characters (large good fortune, small good fortune, etc.), moon's age graduations, etc. are provided. Also, the fortunetelling board 4 and the dial 5 are rotated relatively by 27.3216 **days** of a revolution period of an approximate **month** . In this way, even if there is no timepiece provided with a solar display, when an alignment of the fortunetelling board 4 is executed once by a moon's age value of the **day** a daily **astronomical** calendar, today's fortune, etc. can be divided immediately.

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Set     Items   Description
S1        927   ECLIPT? OR ECLIPS?
S2       2180   ASTROLOG? OR ASTRONOM? OR ZODIAC?
S3     911121   PLOT???? OR COORDINATE? ? OR LATITUD? OR LONGITUD? OR LOCA-
             TION? OR MAP????
S4    1224010   DATE? ? OR DAY? ? OR MONTH? ? OR WEEK? ? OR YEAR? ?
S5    4291378   TIME? ? OR HOUR? ? OR MINUTE? ? OR SECOND? ?
S6    1337256   LOCATION? ? OR PLACE? ? OR SITE? ? OR LOCALIT?
S7     207215   2D OR (TWO OR THREE OR 2 OR 3)(2N)DIMENSION? OR 3D OR (2 OR
               3)()D
S8          6   S1(5N)S3
S9        479   S1 AND (S4 OR S5 OR S6 OR S7)
S10        20   S9 AND S2
S11        25   S10 OR S8
S12        25   IDPAT (sorted in duplicate/non-duplicate order)
S13        25   IDPAT (primary/non-duplicate records only)
S14        14   S13 NOT PY>1998
S15        14   IDPAT (sorted in duplicate/non-duplicate order)
S16        14   IDPAT (primary/non-duplicate records only)
? show files
File 347:JAPIO Oct 1976-2003/Jan(Updated 030506)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200332
         (c) 2003  Thomson Derwent
File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.
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PT Patents

11/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00223014
Timepiece having a star display.
PATENT ASSIGNEE:
Citizen Watch Co. Ltd., (628271), 1-1 Nishishinjuku 2-chome, Shinjuku-Ku Tokyo 160, (JP), (applicant designated states: CH;DE;GB;LI)
INVENTOR:
Uehara, Hideo, Tanashiseizosho Citizen Watch Co Ltd 6-1-12 Honcho, Tanashi-shi Tokyo, (JP)
LEGAL REPRESENTATIVE:
Ben-Nathan, Laurence Albert et al (28211), Urquhart-Dykes & Lord 91 Wimpole Street, London W1M 8AH, (GB)
PATENT (CC, No, Kind, Date): EP 220048 A2 870429 (Basic)
EP 220048 A3 880817
EP 220048 B1 911009
APPLICATION (CC, No, Date): EP 86307939 861014;
PRIORITY (CC, No, Date): JP 85229170 851015; JP 85229169 851015
DESIGNATED STATES: CH; DE; GB; LI
INTERNATIONAL PATENT CLASS: G04B-019/26;
CITED PATENTS (EP A): FR 908206 A; DE 7733628 U; DE 1603877 U; US 3248866 A ; DE 8602569 U
CITED REFERENCES (EP A):
PATENT ABSTRACTS OF JAPAN, vol. 8, no. 23 (P-251) 1460 , 31st January 1984; & JP-A-58 179 376 (HEIJI SAEKI) 20-10-1983;

ABSTRACT EP 220048 A2
Timepiece having a star display.
A wristwatch has a star **map** disk rotatably mounted in the case, a gear train for rotating the star **map** disk at the speed of one revolution per one sidereal **day** . A star **map** is provided on the star **map** disk. The star **map** includes bright stars, constellation figures in a part of the celestial sphere which are selected from visible stars, A dial of the wristwatch has an opening for defining a range of the star **map** which is visible when observing.
ABSTRACT WORD COUNT: 90

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 870429 A2 Published application (A1with Search Report ;A2without Search Report)
Change: 880302 A2 Representative (change)
Search Report: 880817 A3 Separate publication of the European or International search report
Examination: 890412 A2 **Date** of filing of request for examination: 890214
Examination: 900711 A2 **Date** of despatch of first examination report: 900529
Grant: 911009 B1 Granted patent
Oppn None: 920930 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English

...SPECIFICATION B1
...it is difficult to provide a device which discriminates the twilight exactly.
The interval of **time** , during which the sun is between the horizon and

6.5 degrees below the horizon, is called a civil twilight. The interval of **time** , during which the sun is between 12 and 18 degrees below the horizon, is called an **astronomical** twilight. In the civil twilight, the brightest planet can be observed.

In order to discriminate twilight conditions, accurate solar position on the celestial sphere (right ascension and declination), **latitude** of the observation point, and local sidereal **time** are necessary. However, a moving rate of the sun on the **ecliptic** on the celestial sphere is not constant because the revolution orbit of the earth is ellipse. Further, the **ecliptic** crosses the celestial equator at an angle of about 23.5 degrees and the declination...

...distinguished.

According to the present invention, there is provided a timepiece having a case, an **hour** wheel carrying an **hour** hand, a **minute** hand, a dial, and means for driving said hands, a star **map** disk disposed coaxially with an axis of the **hour** hand wheel and rotatably mounted in the case, gear train means for transmitting rotation of the **hour** wheel to the star **map** disk to rotate the disk one revolution per one sidereal **day** , a first star **map** is provided on said star **map** disk, the first star **map** including bright stars, constellation figures in a part of the celestial sphere which are selected...

...on the horizontal refraction of 0.6 degrees caused by the atmospheric refraction. The star **map** 2 has main bright stars various constellation figures 2a, the **ecliptic** 2b indicated by a broken line, and the Milky Way 2c, which are selected from...

...arc 6h shows -55.6 degrees declination and curve 6i shows the definition of an **astronomical** twilight on 108 degrees zenith distance at **latitude** 35(sup(o)N.

In the first star display 7, the **time** of right ascension **2d** corresponding to the marker 6a' represents the sidereal **time** . Further, a solar position on the celestial sphere on a desired **date** is indicated by a corresponding **date** on the **ecliptic** 2b. The twilight is indicated as follows. When the solar position on the desired **date** on the **ecliptic** 2b is positioned within the window 6c, the twilight is not occurred. It is a **day time** when the solar position is within the opening 6b. During the twilight, the solar position...

11/5,K/7 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00452106
METHOD FOR CHANGING INCLINATIONS OF ORBITING SATELLITES
Patent Applicant/Assignee:
BELBRUNO Edward A,
Inventor(s):
BELBRUNO Edward A,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9842570 A2 19981001
Application: WO 98US5784 19980325 (PCT/WO US9805784)
Priority Application: US 9741465 19970325; US 9744318 19970424; US 9748244 19970602
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CZ DE DK EE ES FI

GB GE GH GM GW HU ID IL IS JP KE KG KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN
YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE
DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE
SN TD TG
Main International Patent Class: B64G-001/34
Publication Language: English

English Abstract

When a satellite is orbiting the earth (E) in an elliptic orbit, it has a certain inclination with respect to the earth's equator. The usual way to change inclination is to perform a maneuver by firing the rocket engines at the periapsis of the ellipse. This then forces the satellite into the desired inclination. There is a substantially more fuel efficient way to change the inclination. This is done by an indirect route by first doing a maneuver to bring the satellite to the moon on a BCT (Ballistic Capture Transfer). At the moon (M), the satellite is in the so-called fuzzy boundary or weak stability boundary. A negligibly small maneuver can then bring it back to the earth on a reverse BCT to the desired earth inclination. Another maneuver puts it into the new ellipse at the earth.

Detailed Description

...and useful framework to solve most of the celestial mechanical problems of interest for that **time** . In order to specify the initial state of a Newtonian system, the velocities and positions...analysis, such as the relationship between nonlinear dynamics and modern ergodic theory. For example, if **time** averages along a trajectory on an energy surface are equal to the ensemble averages over...associated with three and four-body problems. Mather proved that for chaotic regions in lower (**two**) **dimensions** for any conservative Hamiltonian System, there exists or remains elliptical orbits which are unstable. In...

...or low earth orbit with sufficient impulse per unit mass, or change in velocity, to **place** the spacecraft into an earth-to-moon orbit. Generally, this orbit is a substantially elliptic...of an orbital system in accordance with a conventional lunar mission in a non-rotating **coordinate** system wherein the X-axis 10 and Y-axis 12 lay in the plane defined...

The **coordinate** system at the Earth required for the targeting algorithm at x, is spherical **coordinates** . They are given by rEl **longitude** , a,, **latitude** , 5,, velocity magnitude, VEI flight path angle, YEf flight path azimuth, GE. The flight path azimuth is the angle from the positive z-axis of the local Cartesian **coordinate** system to the velocity vector VE = (x, y, z) More exactly, oE = COS -1 (Z...

11/5,K/8 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00443240
COMPUTER IMPLEMENTED PROCEDURE FOR BALLISTIC CAPTURE TRANSFER
Patent Applicant/Assignee:
BELBRUNO Edward A,
Inventor(s):
BELBRUNO Edward A,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9833704 A2 19980806
Application: WO 98US1924 19980204 (PCT/WO US9801924)
Priority Application: US 9736864 19970204; US 9741465 19970325; US 9744318 19970424; US 9748244 19970602
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Main International Patent Class: B64G-001/00
International Patent Class: B64G-001/24
Publication Language: English

English Abstract
A method generates an operational ballistic capture transfer for an object emanating substantially at earth or earth orbit to arrive at the moon or moon orbit using a computer implemented process. The method includes the steps of entering parameters including velocity magnitude V(inverted question mark)E, flight path angle gamma(inverted question mark)E, and implementing a forward targeting process by varying the velocity magnitude V(inverted question mark)E, and the flight path angle gamma(inverted question mark)E for convergence of target variables at the moon. The target variables include radial distance, r(inverted question mark)M, and inclination i(inverted question mark)M. The method also includes the step of iterating the forward targeting process until sufficient convergence to obtain the operational ballistic capture transfer from the earth or the earth orbit to the moon or the moon orbit.

Detailed Description
...and useful framework to solve most of the celestial mechanical problems of interest for that **time** . In order to specify the initial state of a Newtonian system, the velocities and positions...analysis, such as the relationship between nonlinear dynamics and modern ergodic theory. For example, if **time** averages along a trajectory on an energy surface are equal to the ensemble averages over...associated with three and four-body problems. Mather proved that for chaotic regions in lower (**two**) **dimensions** for any conservative Hamiltonian System, there exists or remains elliptical orbits which are unstable. In...

...or low earth orbit with sufficient impulse per unit mass, or change in velocity, to **place** the spacecraft into an earth-to-moon orbit. Generally, this orbit is a substantially elliptic...of an orbital system in accordance with a conventional lunar mission in a non-rotating **coordinate** system wherein the X-axis 10 and Y-axis 12 lay in the plane defined...

...to 1.5 million km form the Earth near an Earth apoapsis in approximately the **ecliptic** , then it falls into the lunar WSB provided the Earth-Moon-Sun geometry is correct.

The **coordinate** system at the Earth required for the targeting algorithm at x. is spherical **coordinates** . They are given by rEl **longitude** , a., **latitude** , 6E, velocity magnitude, VEr flight path angle, YE' flight path azimuthr GE. The flight path azimuth is the angle from the positive z-axis of the local Cartesian **coordinate** system to the velocity vector V. = (x,.y,, z) More exactlyl GE = COS -1 (Z...

```
Set     Items   Description
S1       1543   ECLIPT? OR ECLIPS?
S2       1606   ASTROLOG? OR ASTRONOM? OR ZODIAC?
S3     642626   PLOT???? OR COORDINATE? ? OR LATITUD? OR LONGITUD? OR LOCA-
             TION? OR MAP????
S4    1715298   DATE? ? OR DAY? ? OR MONTH? ? OR WEEK? ? OR YEAR? ?
S5    1253071   TIME? ? OR HOUR? ? OR MINUTE? ? OR SECOND? ?
S6     940597   LOCATION? ? OR PLACE? ? OR SITE? ? OR LOCALIT?
S7     268263   2D OR (TWO OR THREE OR 2 OR 3)(2N)DIMENSION? OR 3D OR (2 OR
              3)()D
S8         18   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S9          9   S8 NOT PY>1998
S10         9   IDPAT (sorted in duplicate/non-duplicate order)
S11         9   IDPAT (primary/non-duplicate records only)
S12        22   S1(5N)S3
S13         4   S12 AND IC=(G09B OR G04B)
S14         2   S13 NOT PY>1998
S15         2   S14 NOT S11
? show files
File 348:EUROPEAN PATENTS 1978-2003/May W03
         (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030522,UT=20030515
         (c) 2003 WIPO/Univentio
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Biblio NPL

10/5/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

5646766 INSPEC Abstract Number: A9717-9650D-001
Title: The three - dimensional **structure of the** zodiacal **dust bands**
Author(s): Reach, W.T.; Franz, B.A.; Weiland, J.L.
Journal: Icarus vol.127, no.2 p.461-84
Publication Date: June 1997 Country of Publication: USA
CODEN: ICRSA5 ISSN: 0019-1035
Abstract: Using observations of the infrared sky brightness by the Cosmic Background Explorer (COBE) Diffuse Infrared Background Experiment (DIRBE) and Infrared **Astronomical** Satellite (IRAS), the authors have created **maps** of the surface brightness Fourier-filtered to suppress the smallest (<1 degrees) structures and the large-scale background (>15 degrees). Dust bands associated with the Themis, Koronis, and Eos families are readily evident. A dust band associated with the Maria family is also present. The parallactic distances to the emitting regions of the Koronis, Eos, and Maria dust bands were found to be 1.4 to 2.5 AU. A weak dust band associated with the Eunomia/Io family is evident, together with another weak and previously unattributed dust band, which may split further into two band pairs, potentially associated with the Hygiea or Vesta family. The brightnesses of the blended Themis/Koronis bands and the Eos dust band vary with **ecliptic longitude** , such that the northern or southern component of the band pair becomes brighter when its tilt brings it into the **ecliptic** plane. The authors attribute the brightness variations to the motion of the Earth within the emitting region, and conclude that at least some dust-band particles are on Earth-crossing orbits. For the Themis and Koronis families, the tilt is sufficient that the Earth may pass to the edges of the emitting region, where the density is highest, leading to "glints" two or four **times** a **year** . The authors compared the observed distributions to theoretically motivated, empirical models for the **three - dimensional** distribution of asteroid family dust. In the torus model, the dust is distributed among the asteroid family members with the same distributions of proper orbital inclination and semimajor axis but a random ascending node. In the migrating model, particles are presumed to be under the influence of Poynting-Robertson drag, so that they are distributed throughout the inner Solar System. The migrating model is better able to match the parallactic variation of dust-band **latitude** as well as the 12- to 60- mu m spectrum of the dust bands. The annual brightness variations can be explained only by the migrating model. Upper limits are **placed** on the dust density associated with the Nysa and Flora families-both of the large, inner-belt families with wide inclination dispersions. The association of five (and potentially seven) dust bands with the largest asteroid families suggests that dust bands are an integral part of asteroid families. If nonfamily asteroids produce dust at a rate similar to that of the families with the lowest dust density, then they can account for the brightness of the **zodiacal** light in the **ecliptic** . (51 Refs)
Identifiers: infrared **astronomy** ; **zodiacal** light; interplanetary matter; dust; **three - dimensional** structure; **zodiacal** dust band; infrared sky brightness; COBE; DIRBE; IRAS; **map** ; surface brightness; Themis; Koronis; Eos; asteroid family; Maria; Eunomia Io family; Nysa; Flora; 1 to 100 mum

10/5/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

03306743 INSPEC Abstract Number: A89026612
Title: Doppler imaging of AR Lacertae at three epochs
Author(s): Walter, F.M.; Neff, J.E.; Linsky, J.L.; Rodono, M.
Conference Title: A Decade of UV Astronomy with the IUE Satellite. Proceedings of a Celebratory Symposium (ESA-SP-281) p.295-7 vol.1
Editor(s): Rolfe, E.J.
Publication Date: June 1988 Country of Publication: Netherlands 2 vol. (xv+431+x+417) pp.
Abstract: Doppler imaging analysis allows use of the information contained in a **time** sequence of spectral line profiles to deduce the size, **location** , and surface flux of regions of contrasting brightness on rotating stars. The authors have used IUE observations to study the structure of the lower chromosphere of AR Lacertae in the light of Mg II k. The authors have obtained sequences of LWR/P-HI images distributed around the binary period of three epochs. The authors have identified discrete plage-like regions of enhanced Mg II surface flux in this system. There are temporal variations in the Mg II flux on timescales of **hours** as well as substantial changes in chromospheric morphology on timescales of **years** . Even with the limited S/N attainable with the IUE, one can **map** the gross structures of active stellar atmospheres. With such information, one can begin to study the true **3 - D** structure of the atmosphere of late-type stars. (6 Refs)
Descriptors: Doppler effect; **eclipsing** binary stars; stellar atmospheres; stellar spectra; ultraviolet **astronomical** observations; variable stars

```
Set     Items   Description
S1      41460   ECLIPT? OR ECLIPS?
S2     341235   ASTROLOG? OR ASTRONOM? OR ZODIAC?
S3    3073611   PLOT???? OR COORDINATE? ? OR LATITUD? OR LONGITUD? OR LOCA-
            TION? OR MAP????
S4    4588551   DATE? ? OR DAY? ? OR MONTH? ? OR WEEK? ? OR YEAR? ?
S5    8487144   TIME? ? OR HOUR? ? OR MINUTE? ? OR SECOND? ?
S6    3583206   LOCATION? ? OR PLACE? ? OR SITE? ? OR LOCALIT?
S7    2010692   2D OR (TWO OR THREE OR 2 OR 3)(2N)DIMENSION? OR 3D OR (2 OR
             3)()D
S8          3   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7
S9          3   S8 NOT PY>1998
S10         2   RD (unique items)
? show files
File   2:INSPEC 1969-2003/May W3
         (c) 2003 Institution of Electrical Engineers
File  34:SciSearch(R) Cited Ref Sci 1990-2003/May W3
         (c) 2003 Inst for Sci Info
File 144:Pascal 1973-2003/May W3
         (c) 2003 INIST/CNRS
File   6:NTIS 1964-2003/May W4
         (c) 2003 NTIS, Intl Cpyrght All Rights Res
File  62:SPIN(R) 1975-2003/Apr W3
         (c) 2003 American Institute of Physics
File 103:Energy SciTec 1974-2003/May B1
         (c) 2003 Contains copyrighted material
File 239:Mathsci 1940-2003/Jul
         (c) 2003 American Mathematical Society
File 109:Nuclear Sci. Abs. 1948-1976
         (c)1997 Contains copyrighted material
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File   8:Ei Compendex(R) 1970-2003/May W3
         (c) 2003 Elsevier Eng.  Info. Inc.
File  94:JICST-EPlus 1985-2003/May W4
         (c)2003 Japan Science and Tech Corp(JST)
File  29:Meteor.& Geoastro.Abs. 1970-2002/Jul
         (c) 2002 Amer.Meteorological Soc.
File 292:GEOBASE(TM) 1980-2003/May
         (c) 2003 Elsevier Science Ltd.
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FT NPL

6/3,K/2 (Item 2 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

03580910 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Epsilon Bootis revisited
Lunan, Duncan
Analog Science Fiction/Science Fact (IASF), v118 n3, p52-68, p.17
Mar 1998
ISSN: 0161-2328 JOURNAL CODE: IASF

TEXT:
...Meanwhile, however, Epsilon Bootis just would not lie down.
There are several real or suggested **Zodiacal** star **maps** , laid out on the ground, which center on Bootes. That's just because the constellation...

...pole of the Ecliptic, perpendicular to Earth's orbital plane around the Sun, so any **Zodiacal** **map** will be centered on it. But also, we are in Bootes as viewed from Tau...Astronomers can partly get around the problem of coordinate change by giving star positions in **Ecliptic** **Latitude** , which remains constant, and **Ecliptic** **Longitude** , which changes smoothly with time. But for coordinates that are fixed over human timespans, even... dense clouds of absorbing dust in the inner regions of the Milky Way, so its **location** cannot be pinpointed visually, but only with a radiotelescope. Until you know exactly where the...

...worked out with long pages of calculations, simulated on the planetarium "sky" overhead. With the **date** set for 2840 s.c., at the Stonehenge latitude, the Milky Way really does line...extent in 20,000 B.C.,15 but even the 8000 B.C. Post Hole **date** is a problem for archaeologists.
As Alan Evans pointed out, the Ecliptic Meridian passes through...

...3). If there really was a spacecraft, and its attitude sensing platform was relating our **ecliptic** and celestial **coordinates** to the galactic ones, then if galactic alignments determined the latitude of the touchdown site...

...an extraordinary remark, which I'll come back to in a moment.
Then, holding the **date** c.2700 B.C., we shifted to the latitude of Giza, and verified Robert's...s.c., Leo, Orion and the Sphinx, when we moved the setting back to that **date** . When the Sun rose below Leo at the Vernal Equinox in 10,500 B.C...

...at all, it would be true once a day, every day, at that latitude and **date** . So, just by letting the stars wheel on, we verified it at once. At Giza...

...with the horizon. We saw it for ourselves: like a galactic "compass rose" at each **location** , but separated by eight millennia in time.
But in that case, what was happening then at Stonehenge? We kept the **date** at 10,500 B.C., and the custodian took the planetarium "back up" to the...

...B.C. represented a return to both sites. And the first, 10,500 B.C. **date** goes along with the "approximately 13,000 years ago" given by Arcturus's position in...13. J. Gall Inglis, Arthur P. Norton, "Star

Atlas," 14th edition, Gall & Inglis, 1959. 14. **Dates** for the various construction phases at Stonehenge remain in some dispute; Aubrey Burt, "Prehtoric Avebury...

...the event strangely far back, dating it at 3100 B.C., well before the starting **dates** given else where. (Christopher Chippendale, -Life around Stonehenge," New Scientist, 101, 1404, 12-17, 5...

6/3,K/3 (Item 3 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

03512803 (USE FORMAT 7 OR 9 FOR FULLTEXT)
1998 skygazer's almanac
Anonymous
Sky & Telescope (GSTN), 1998 Sky Gazer's Alma nac Supplement, p1-4, p.4
Jan 1998
ISSN: 0037-6604 JOURNAL CODE: GSTN

TEXT:
...appear closest together in the sky (at appulse), not merely when they share the same **ecliptic longitude** or right ascension.

Opposition of a planet, the **date** when it is opposite the Sun in the sky and thus visible all night, occurs...whether rising or setting; the circle for new Moon is open. P and A mark **dates** when the Moon is at perigee and apogee (nearest and farthest from Earth, respectively).

Mercury and Venus never stray far from the twilight bands. Their **dates** of greatest elongation from the Sun are shown by I symbols on their rising or setting curves. Asterisks mark the **dates** of Venus's greatest brilliancy and Mercury's best visibility as computed by a traditional formula.

Meteor showers are marked by a starburst symbol at the **date** of peak activity and at the time when the shower's radiant is highest in the night sky. This is often just before morning twilight begins.

Julian **dates** can be found from the numbers just above the month names on the chart's...

...of events, which differs from ordinary clock time by a number of minutes at most **locations** . Our civil time zones are standardized on particular longitudes. Examples in North America are Eastern...

...four minutes for each degree you are east of it. You can look up your **location** 's longitude on a map.

For instance, Washington, D.C. (longitude 77deg), is 2o west...

6/3,K/8 (Item 8 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

02584219 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Books and beyond: EclipseComplete 2.0
Mosley, John E
Sky & Telescope (GSTN), v90 n5, p57
Nov 1995
ISSN: 0037-6604 JOURNAL CODE: GSTN

TEXT:
... 249.95.
ONE of the first astronomy programs I reviewed for Sky and Telescope was **Eclipse Map** by Charles Kluepfel in September 1986 (page 279). It was available for Apple II and...

...on nearly any IBM-compatible computer.
The program calculates eclipse data in detail and displays **eclipse** paths on **maps** of the Earth. Begin by entering an eclipse **date** and finding the Besselian eclipse elements. If you don't know the **date** , the program will find eclipses for you. Then calculate viewing data for points on the...

...points where the eclipse begins or ends at sunrise or sunset, or for any other **location** . The tabular information, which you can save or print, is complete and accurate.
The **eclipse** path can be **plotted** on a map of the Earth in any of three projections. You can then zoom...

...a map that shows major cities, rivers, grid lines, and detailed country and state boundaries. **Plot** up to 10 **eclipses** on one **map** (they can be on widely different **dates**0). Kluepfel's program, however, does not display the appearance of the eclipsed Sun as it appears in the sky. One handy command quickly generates **eclipse** paths on a world **map** , providing a fast overview before doing a more detailed study.
EclipseComplete will find and calculate...

...of perigee and apogee, and more.
Occultations by the Moon are treated too. Enter the **date** , time, and coordinates of a star or planet (all of which you must find elsewhere...

6/3,K/9 (Item 9 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

02525802 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Keplerian complexity: Numerical simulations of accretion disk transport
Hawley, John F
Science (GSCI), v269 n5229, p1365-1370
Sep 8, 1995
ISSN: 0036-8075 JOURNAL CODE: GSCI

TEXT:
... indirect imaging of some disks has become possible, with the use of the techniques of **eclipse mapping** and Doppler tomography (1, 5), but detailed data on the internal structure of disks are...shock solutions (19) that have proven important in interpreting and generalizing the numerical simulations. To **date** it appears that these shocks may be significant for properties such as disk structure and...

...not allowing vertical propagation out of the disk. Three-dimensional simulations are required, but to **date** only preliminary steps have been taken with finite difference techniques. The rapid increase in computer... radially outward but connected by a magnetic field to another fluid element near its original **location** . The displaced fluid element will be centrifugally accelerated by the pull from the more rapidly...3 is an image

from the most complete numerical simulations that have been done to **date** , which has about one million grid zones. (Figure 3 omitted) Although it is still not...

6/3,K/17 (Item 17 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

02279549 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Millisecond pulsars: Timekeepers of the cosmos
Kaspi, Victoria M
Sky & Telescope (GSTN), v89 n4, p18-23, p.6
Apr 1995
ISSN: 0037-6604 JOURNAL CODE: GSTN

TEXT:
... In turn, measuring the amplitude of the Doppler effect on pulse arrival times allows the **ecliptic latitude** of the pulsar to be pinpointed. Similarly, timing the Doppler shift's maximum provides the **ecliptic longitude** of the pulsar, and hence, its precise **location** on the sky.
The positions derived by this technique are by far the most precise...

6/3,K/20 (Item 20 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

01907612 (USE FORMAT 7 OR 9 FOR FULLTEXT)
1994 software buyer's guide
Anonymous
Astronomy (GAST), v22 n5, p54-76, p.15
May 1994
ISSN: 0091-6358 JOURNAL CODE: GAST

TEXT:
... in their darkrooms. (See "Image Processing.")
Special-purpose programs permit you to study binary stars, **plot** the path of an **eclipse** , explore telescope optics, investigate the orbits of stars and planets, view Mars from its surface...

...the Sun as the Moon passes in front of it. You need another program to **plot** the **eclipse** path across Earth's surface (see "Expanding Your Horizons"). You can also use the animation...you to explore the nature of the universe in ways hat no other program can.
Eclipse programs **plot** the path of a solar **eclipse** across Earth's face or predict the time of a lunar or solar eclipse more...

...the planet--before you go out to look for them.
Calendars help you find the **dates** of the New Moon for planning deep-sky observing sessions or other phases for lunar...

6/3,K/30 (Item 30 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

01068857 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Dance of the Planets
Bruning, Dave
Astronomy (GAST), v20 n5, p100-101, p.2
May 1992
ISSN: 0091-6358 JOURNAL CODE: GAST

TEXT:
... on Earth. It is also an ephemeris program that predicts accurate planetary positions, times and **locations** of **eclipses** , and the positions of planetary satellites. And it is a simulator that calculates and displays ...

...objects, including galaxies, star clusters, pulsars, and quasars. The program now displays the sky for **dates** between 4680 B C. and A.D. 10,000.
New features include the **plotting** of the **ecliptic** across the sky, **mapping** of objects across an extended celestial sphere (called Skymaps), plotting of local horizons and the...

...Earth passes above and below Saturn's ring plane. You can even change the observing **location** to outside the solar system for a different view of Saturn's shadow on the...

...about the program is that it doesn't display digital hours and minutes for the **date** . A better time display would enhance the simulations or satellite eclipses and other events.
Dance...

6/3,K/35 (Item 5 from file: 88)
DIALOG(R)File 88:Gale Group Business A.R.T.S.

03722455 SUPPLIER NUMBER: 17450028
EclipseComplete 2.0. (Software Review) (Evaluation)
Mosley, John E.
Sky & Telescope, v90, n5, p57(1)
Nov, 1995
DOCUMENT TYPE: Evaluation ISSN: 0037-6604 LANGUAGE: English

TEXT:
One of the first astronomy programs I reviewed for Sky and Telescope was **Eclipse Map** by Charles Kluepfel in September 1986 (page 279). It was available for Apple II and...
The program calculates eclipse data in detail and displays **eclipse** paths on **maps** of the Earth. Begin by entering an eclipse **date** and finding the Besselian eclipse elements. If you don't know the **date** , the program will find eclipses for you. Then calculate viewing data for points on the...

...points where the eclipse begins or ends at sunrise or sunset, or for any other **location** . The tabular information, which you can save or print, is complete and accurate.
The **eclipse** path can be **plotted** on a map of the Earth in any of three projections. You can then zoom...

...a map that shows major cities, rivers, grid lines, and detailed country and state boundaries. **Plot** up to 10 **eclipses** on one **map** (they can be on widely different **dates**). Kluepfel's program, however, does not display the appearance of the eclipsed Sun as it appears in the sky. One handy command quickly generates **eclipse** paths on a world **map** , providing a fast overview before doing a more detailed study.
EclipseComplete will find and calculate...

...of perigee and apogee, and more.
Occultations by the Moon are treated too. Enter the **date** , time, and coordinates of a star or planet (all of which you must find elsewhere...

6/3,K/44 (Item 14 from file: 88)
DIALOG(R)File 88:Gale Group Business A.R.T.S.

03170164 SUPPLIER NUMBER: 13605226
Planetary event and eclipse predictor. (Software Review) (Evaluation)
Mosley, John E.
Sky & Telescope, v85, n4, p59(1)
April, 1993
DOCUMENT TYPE: Evaluation ISSN: 0037-6604 LANGUAGE: English

TEXT:
...SOFTWARE I used for astronomy calculations was an interpolation program that made successive iterations from **dates** and positions I entered from an almanac to find the exact times of conjunctions. I...
... utility program that calculates conjunctions, occultations, and eclipses. You need know nothing more than your **location** on Earth, the kind of event you'd like to see, and the time range...

...peak. You are given essential information such as the time of closest approach (or maximum **eclipse**), **coordinates** , and separation (or percent covered). PEEP does not calculate conjunctions between the Moon and planets ...

6/3,K/51 (Item 1 from file: 440)
DIALOG(R)File 440:Current Contents Search(R)

02601702 References: 57
TITLE: ZODIACAL EMISSION .2. DUST NEAR ECLIPTIC
AUTHOR(S): REACH WT
CORPORATE SOURCE: UNIV CALIF BERKELEY,DEPT ASTRON/BERKELEY//CA/94720 (Reprint)
PUBLICATION: ASTROPHYSICAL JOURNAL, 1991, V369, N2 (MAR 10), P529-543

ABSTRACT: The **location** and brightness of the peak **zodiacal** emission are derived from IRAS observations of the diffuse infrared background radiation. A uniform ellipsoid...

...the Sun. The variations of the peak zodiacal emission brightness with solar elongation and observation **date** allow two independent determinations of the gradient of the volume emissivity of interplanetary

dust. Combined...

...variation of the albedo proportional to r-0.3 +/- 0.3. Systematic brightness variations with **ecliptic longitude** reveal two potential asymmetries in the dust complex: excess emission following the Earth in its orbit, and excess emission along lines of sight with **ecliptic longitude** -lambda = 190-degrees +/- 20-degrees and lambda-. congruent-to 100-degrees.

6/3,K/63 (Item 6 from file: 141)
DIALOG(R)File 141:Readers Guide

02780321 H.W. WILSON RECORD NUMBER: BRGA94030321
Discover Space.
Morgan, Phillip.
Compute (Compute) v. 16 (Jan. '94) p. 126+

...ABSTRACT: a useful program that uses text, illustrations, and animation to display astronomical objects and explain **astronomical** concepts. The program can **plot** 7000 stars, 110 deep space objects, 90 constellations, and the nine planets in their positions as they would be seen from any point on Earth on any **date** . It can also animate the stars to show how they would move across the sky, print a time- and **location** -specific star map, show the moon's phases for virtually any **date** , trace the path of 33 past and future solar eclipses, calculate the damage caused by...

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Set     Items   Description
S1       5432   ((ECLIPT? OR ECLIPS?) AND (ASTROLOG? OR ASTRONOM? OR ZODIA-
            C?)) NOT PY>1998
S2    1425381   (PLOT???? OR COORDINATE? ? OR LATITUD? OR LONGITUD? OR LOC-
            ATION? OR MAP????) NOT PY>1998
S3        536   S1(5N)S2
S4        106   S3 AND DATE? ? AND LOCATION? ?
S5         64   RD (unique items)
S6         63   S5 NOT PD>19980626
? show files
File 484:Periodical Abs Plustext 1986-2003/May W3
         (c) 2003 ProQuest
File  88:Gale Group Business A.R.T.S. 1976-2003/May 23
         (c) 2003 The Gale Group
File 440:Current Contents Search(R) 1990-2003/May 26
         (c) 2003 Inst for Sci Info
File 532:Bangor Daily News 1996-2003/May 27
         (c) 2003 Bangor Daily News
File  47:Gale Group Magazine DB(TM) 1959-2003/May 22
         (c) 2003 The Gale group
File  98:General Sci Abs/Full-Text 1984-2003/Apr
         (c) 2003 The HW Wilson Co.
File 141:Readers Guide 1983-2003/Apr
         (c) 2003 The HW Wilson Co
File 995:NewsRoom 2000
         (c) 2003 The Dialog Corporation
File 781:ProQuest Newsstand 1998-2003/May 27
         (c) 2003 ProQuest Info&Learning
File 993:NewsRoom 2002/Jan-Dec
         (c) 2003 The Dialog Corporation
File 727:Canadian Newspapers 1990-2003/May 27
         (c) 2003 Southam Inc.
File 994:NewsRoom 2001
         (c) 2003 The Dialog Corporation
File 149:TGG Health&Wellness DB(SM) 1976-2003/May W3
         (c) 2003 The Gale Group
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File 411:DIALINDEX(R)

DIALINDEX(R)
   (c) 2003 The Dialog Corporation plc

*** DIALINDEX search results display in an abbreviated ***
*** format unless you enter the SET DETAIL ON command. ***
? sf all
   You have 553 files in your file list.
   (To see banners, use SHOW FILES command)
? s (zodiac? or astrolog?) and ecliptic?

Your SELECT statement is:
   s (zodiac? or astrolog?) and ecliptic?

          Items   File
          -----   ----
            147     2: INSPEC_1969-2003/May W3
             34     6: NTIS_1964-2003/May W4
              7     8: Ei Compendex(R)_1970-2003/May W3
             16    20: Dialog Global Reporter_1997-2003/May 27
              6    29: Meteor.& Geoastro.Abs._1970-2002/Jul
             64    34: SciSearch(R) Cited Ref Sci_1990-2003/May W3
              2    35: Dissertation Abs Online_1861-2003/Apr
             50    47: Gale Group Magazine DB(TM)_1959-2003/May 22
              1    48: SPORTDiscus_1962-2003/May
             27    62: SPIN(R)_1975-2003/Apr W3
              1    73: EMBASE_1974-2003/May W3
      Examined  50 files
             64    88: Gale Group Business A.R.T.S._1976-2003/May 23
              7    94: JICST-EPlus_1985-2003/May W4
              1    96: FLUIDEX_1972-2003/May
             30    98: General Sci Abs/Full-Text_1984-2003/Apr
              2    99: Wilson Appl. Sci & Tech Abs_1983-2003/Apr
             21   103: Energy SciTec_1974-2003/May B1
              9   109: Nuclear Sci. Abs._1948-1976
              1   120: U.S. Copyrights_1978-2003/May
             26   141: Readers Guide_1983-2003/Apr
              1   142: Social Sciences Abstracts_1983-2003/Apr
             40   144: Pascal_1973-2003/May W3
      Examined 100 files
              2   148: Gale Group Trade & Industry DB_1976-2003/May 23
              6   149: TGG Health&Wellness DB(SM)_1976-2003/May W3
              2   155: MEDLINE(R)_1966-2003/May W3
              1   206: ONTAP(R) NTIS_
              1   211: Gale Group Newsearch(TM)_2003/May 23
              2   213: ONTAP(R) INSPEC_
      Examined 150 files
              2   230: Gale Dir Online-Portable-Internet DBS_2003/Mar
             17   239: Mathsci_1940-2003/Jul
              1   262: CBCA Fulltext_1982-2003/Jun
              1   275: Gale Group Computer DB(TM)_1983-2003/May 23
              6   292: GEOBASE(TM)_1980-2003/May
      Examined 200 files
              8   340: CLAIMS(R)/US Patent_1950-03/May 22
              1   342: Derwent Patents Citation Indx_1978-01/200302
              1   347: JAPIO_Oct 1976-2003/Jan(Updated 030506)
              1   348: EUROPEAN PATENTS_1978-2003/May W03
              8   349: PCT FULLTEXT_1979-2002/UB=20030522,UT=20030515
              4   351: Derwent WPI_1963-2003/UD,UM &UP=200332
              3   369: New Scientist_1994-2003/May W2
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          2   370: Science_1996-1999/Jul W3
Examined 250 files
          1   399: CA SEARCH(R)_1967-2003/UD=13822
          1   420: UnCover_1988-2001/May 31
          8   434: SciSearch(R) Cited Ref Sci_1974-1989/Dec
          1   435: Art Abstracts_1984-2003/Apr
          4   436: Humanities Abs Full Text_1984-2003/Apr
         54   440: Current Contents Search(R)_1990-2003/May 26
Examined 300 files
          1   483: Newspaper Abs Daily_1986-2003/May 27
         85   484: Periodical Abs Plustext_1986-2003/May W3
          2   492: Arizona Repub/Phoenix Gaz_19862002/Jan 06
         51   532: Bangor Daily News_1996-2003/May 24
Examined 350 files
Examined 400 files
          5   619: Asia Intelligence Wire_1995-2003/May 26
          1   635: Business Dateline(R)_1985-2003/May 23
          1   636: Gale Group Newsletter DB(TM)_1987-2003/May 23
          4   638: Newsday/New York Newsday_1987-2003/May 25
          1   641: Rocky Mountain News_Jun 1989-2003/May 23
          1   644: (Boulder)  Daily Camera_1995- 2003/May 23
          5   652: US Patents Fulltext_1971-1975
         16   654: US PAT.FULL._1976-2003/May 20
Examined 450 files
          1   702: Miami Herald_1983-2003/May 25
          1   704: (Portland)The Oregonian_1989-2003/May 23
          1   707: The Seattle Times_1989-2003/May 26
          1   709: Richmond Times-Disp._1989-2003/May 24
          6   710: Times/Sun.Times(London)_Jun 1988-2003/May 26
          1   711: Independent(London)_Sep 1988-2003/May 27
          1   712: Palm Beach Post_1989-2003/May 23
          1   714: (Baltimore) The Sun_1990-2003/May 27
          1   717: The Washington Times_Jun 1989-2003/May 23
          1   721: Lexington Hrld.-Ldr._1990-2003/May 23
          1   723: The Wichita Eagle_1990-2003/May 23
         11   727: Canadian Newspapers_1990-2003/May 27
          5   728: Asia/Pac News_1994-2003/May W3
          1   732: San Francisco Exam._1990- 2000/Nov 21
          3   733: The Buffalo News_1990- 2003/May 24
          4   735: St. Petersburg Times_1989- 2000/Nov 01
          1   742: (Madison)Cap.Tim/Wi.St.J_1990-2003/May 25
Examined 500 files
          1   749: Latin American News  Jan/_1994-2003/May 23
          2   755: New Zealand Newspapers_1995-2003/May 26
          1   756: Daily/Sunday Telegraph_2000-2003/May 27
         19   781: ProQuest Newsstand_1998-2003/May 27
          2   990: NewsRoom Current_2003/May 27
          3   992: NewsRoom 2003/Jan-Feb
Examined 550 files
         15   993: NewsRoom 2002/Jan-Dec
          8   994: NewsRoom 2001
         23   995: NewsRoom 2000

   85 files have one or more items; file list includes 553 files.

?
? rank files
Your last SELECT statement was:
   S (ZODIAC? OR ASTROLOG?) AND ECLIPTIC?

Ref        Items   File
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N1            147     2: INSPEC_1969-2003/May W3
N2             85   484: Periodical Abs Plustext_1986-2003/May W3
N3             64    34: SciSearch(R) Cited Ref Sci_1990-2003/May W3
N4             64    88: Gale Group Business A.R.T.S._1976-2003/May 23
N5             54   440: Current Contents Search(R)_1990-2003/May 26
N6             51   532: Bangor Daily News_1996-2003/May 24
N7             50    47: Gale Group Magazine DB(TM)_1959-2003/May 22
N8             40   144: Pascal_1973-2003/May W3
N9             34     6: NTIS_1964-2003/May W4
N10            30    98: General Sci Abs/Full-Text_1984-2003/Apr
   85 files have one or more items; file list includes 553 files.

        - Enter P or PAGE for more -
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Your last SELECT statement was:
   S (ZODIAC? OR ASTROLOG?) AND ECLIPTIC?

Ref         Items   File
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N11            27    62: SPIN(R)_1975-2003/Apr W3
N12            26   141: Readers Guide_1983-2003/Apr
N13            23   995: NewsRoom 2000
N14            21   103: Energy SciTec_1974-2003/May B1
N15            19   781: ProQuest Newsstand_1998-2003/May 27
N16            17   239: Mathsci_1940-2003/Jul
N17            16    20: Dialog Global Reporter_1997-2003/May 27
N18            16   654: US PAT.FULL._1976-2003/May 20
N19            15   993: NewsRoom 2002/Jan-Dec
N20            11   727: Canadian Newspapers_1990-2003/May 27
   85 files have one or more items; file list includes 553 files.

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Ref         Items   File
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N21             9   109: Nuclear Sci. Abs._1948-1976
N22             8   340: CLAIMS(R)/US Patent_1950-03/May 22
N23             8   349: PCT FULLTEXT_1979-2002/UB=20030522,UT=20030515
N24             8   434: SciSearch(R) Cited Ref Sci_1974-1989/Dec
N25             8   994: NewsRoom 2001
N26             7     8: Ei Compendex(R)_1970-2003/May W3
N27             7    94: JICST-EPlus_1985-2003/May W4
N28             6    29: Meteor.& Geoastro.Abs._1970-2002/Jul
N29             6   149: TGG Health&Wellness DB(SM)_1976-2003/May W3
N30             6   292: GEOBASE(TM)_1980-2003/May
   85 files have one or more items; file list includes 553 files.

        - Enter P or PAGE for more -
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S (ZODIAC? OR ASTROLOG?) AND ECLIPTIC?

Ref	Items	File
N1	147	2: INSPEC_1969-2003/May W3
N2	85	484: Periodical Abs Plustext_1986-2003/May W3
N3	64	34: SciSearch(R) Cited Ref Sci_1990-2003/May W3
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N12	26	141: Readers Guide_1983-2003/Apr
N13	23	995: NewsRoom 2000
N14	21	103: Energy SciTec_1974-2003/May B1
N15	19	781: ProQuest Newsstand_1998-2003/May 27
N16	17	239: Mathsci_1940-2003/Jul
N17	16	20: Dialog Global Reporter_1997-2003/May 27
N18	16	654: US PAT.FULL._1976-2003/May 20
N19	15	993: NewsRoom 2002/Jan-Dec
N20	11	727: Canadian Newspapers_1990-2003/May 27

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N22	8	340: CLAIMS(R)/US Patent_1950-03/May 22
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N25	8	994: NewsRoom 2001
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N27	7	94: JICST-EPlus_1985-2003/May W4
N28	6	29: Meteor.& Geoastro.Abs._1970-2002/Jul
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